

AIR CONDITIONER OPTIONAL PARTS

Separation tubes

PART NO. 9380122005-02

INSTALLATION MANUAL

For authorized service personnel only.

⚠ CAUTION

**R410A
REFRIGERANT**

This Air Conditioner contains
and operates with refrigerant R410A.

**THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED
BY QUALIFIED PERSONNEL.**

Refer to Commonwealth, State, Territory and local legislation,
regulations, codes, installation & operation manuals, before
the installation, maintenance and/or service of this product.

English

Français

Español



1. SAFETY PRECAUTIONS

⚠ CAUTION

- These Separation tubes are to be used for R410A refrigerant.
- The Installation Manual is intended for Separation tubes that are used in multi-system.
- Before installation, check the combination of indoor units, branch boxes, outdoor unit and separation tubes thoroughly.
- Before installation, read the Installation Manual of the outdoor unit carefully.

2. ABOUT THE UNIT

2.1. Parts list

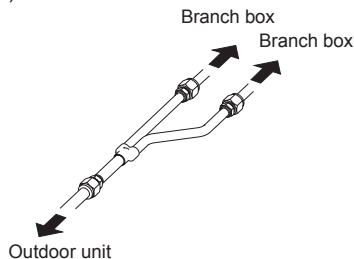
	Gas side		Liquid side		Coupler insulation
	Gas pipe	Insulation	Liquid pipe	Insulation	
UTP-SX248	mm (in.)		mm (in.)		 (large)
	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø9.52 (3/8)	Ø9.52 (3/8)	3
		Ø15.88 (5/8)	Ø9.52 (3/8)	Ø9.52 (3/8)	 (small)
					3

3. INSTALLATION WORK

⚠ CAUTION

- Do not mistake the direction of connection.
- Please do not install it in indoor.
- For the restrictions of connection pipe, please follow the Installation manual of outdoor unit.

(1) Check the direction of connection.



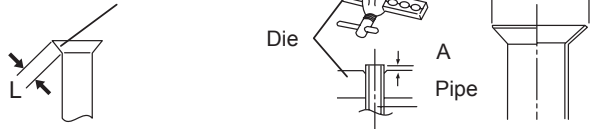
(2) Flaring

⚠ CAUTION

- Do not use mineral oil on a flared part. Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.

- Use special pipe cutter and flare tool exclusive for R410A.
 - Cut the connection pipe to the necessary length with a pipe cutter.
 - Hold the pipe downward so that the cuttings will not enter the pipe and remove any burrs.
 - Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool. Leakage of refrigerant may result if other flare nuts are used.
 - Protect the pipes by pinching them or with tape to prevent dust, dirt, or water from entering the pipes.

Check if [L] is flared uniformly and is not cracked or scratched.



Pipe outside diameter [mm (in.)]	Dimension A (mm(in.))	Dimension B - 0.4 [mm(in.)]
	Flare tool for R410A, clutch type	
6.35 (1/4)	0 to 0.5 (0 to 0.02)	9.1 (11/32)
9.52 (3/8)		13.2(17/32)
12.70 (1/2)		16.6(21/32)
15.88 (5/8)		19.7(25/32)

- When using conventional flare tools to flare R410A pipes, the dimension A should be approximately 0.5 mm(0.02in.) more than indicated in the table (for flaring with R410A flare tools) to achieve the specified flaring. Use a thickness gauge to measure the dimension A.

Width across flats



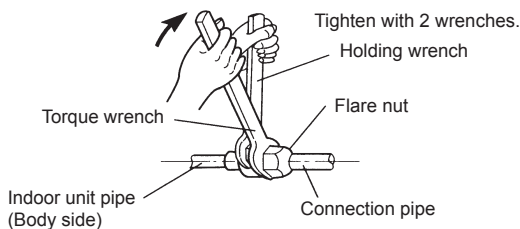
Pipe outside diameter [mm (in.)]	Width across flats of Flare nut [mm(in.)]
6.35 (1/4)	17(21/32)
9.52 (3/8)	22(7/8)
12.70 (1/2)	26(1-1/32)
15.88 (5/8)	29(1-5/32)

(3) Pipe connection

⚠ CAUTION

- Be sure to install the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.
- Do not remove the flare nut from the indoor unit pipe until immediately before connecting the connection pipe.
- Hold the torque wrench at its grip, keeping it in the right angle with the pipe, in order to tighten the flare nut correctly.
- Tighten the flare nuts with a torque wrench using the specified tightening method. Otherwise, the flare nuts could break after a prolonged period, causing refrigerant to leak and generate a hazardous gas if the refrigerant comes into contact with a flame.

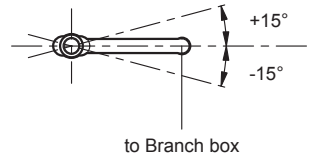
When the flare nut is tightened properly by your hand, hold the body side coupling with a separate spanner, then tighten with a torque wrench. (See the table below for the flare nut tightening torques.)



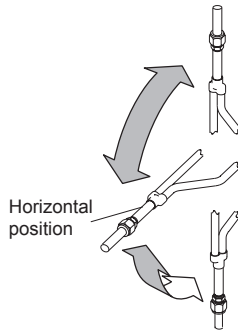
Flare nut [mm (in.)]	Tightening torque [N·m (lbf-ft)]
6.35 (1/4) dia.	16 to 18 (11.8 to 13.3)
9.52 (3/8) dia.	32 to 42 (23.6 to 31.0)
12.70 (1/2) dia.	49 to 61 (36.1 to 45.0)
15.88 (5/8) dia.	63 to 75 (46.5 to 55.3)
19.05 (3/4) dia.	90 to 110 (66.4 to 81.1)

(4) Positioning of separation tubes

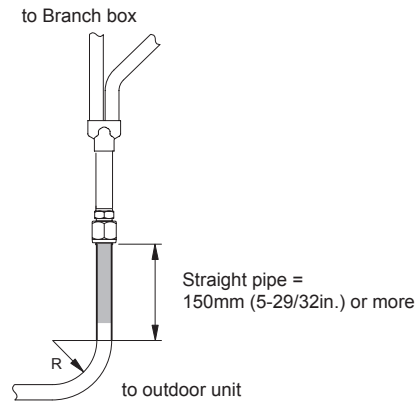
- If it is placed horizontally, keep it within $\pm 15^\circ$. Otherwise, it will not separate the refrigerant evenly, causing a reduction in performance.



- Place the separation tube in a horizontal position as far as possible. Only place the separation tube as shown below during unavoidable circumstances.

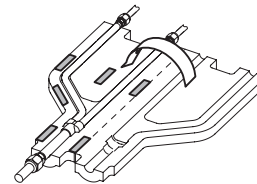


- When connecting the pipe, do not bend it near the connection section. If the pipe must be bent due to unavoidable circumstances, ensure that the linear section is 150mm (5-29/32in.) or more.

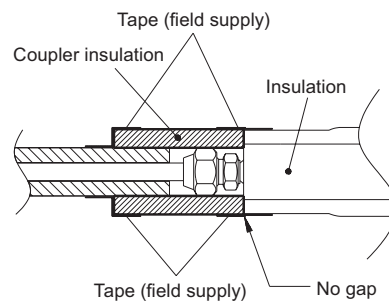
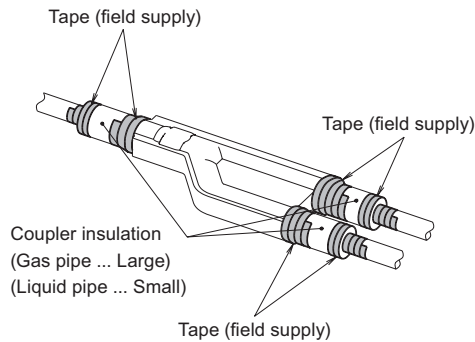


(5) After connecting the pipes, use the supplied heat insulation to insulate them.

- Remove the protective sheet from the double-stick tape that is affixed to the heat insulation.



- Use tape (field supply) to seal the seam so that there will be no gap at the junction between the aforementioned heat insulation and coupler insulation, and between coupler insulation and the heat insulation on the local piping. (There are 2 kinds of coupler insulation. Install the coupler insulation (large) at the gas pipe, and install the coupler insulation (small) at the liquid pipe.)



CAUTION

- Be sure to install the heat insulation on liquid pipes and gas pipes. Unless they are thermally insulated, water condensation can cause accidents or reduction in performance.
- After installing the heat insulation, if you worry about possible condensation due to the high humidity of installation position, please use locally procured heat insulation to reinforce insulation.

